

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A data transmission method used in a radio system comprising a subscriber terminal (200) and at least one base station (100) which transmits signals to the subscriber terminal by means of its antenna (140, 141), ~~characterized by, the method comprising:~~

determining the quality of ~~the~~ signals received by the subscriber terminal by comparing the received signals with at least one signal quality threshold level,

sending to the base station (100), which transmitted ~~the a~~ signal that exceeded the threshold, information on the antennas, which transmitted the ~~signals~~ signal that exceeded the threshold, or information on the transmission directions from which the signal that exceeded the threshold ~~was~~ were received, and

A ) selecting from the antennas, which transmitted the signal that exceeded the threshold, an antenna or antennas to continue ~~the~~ transmission of the signal to said subscriber terminal (200), or selecting from the transmission directions, from which the signal that exceeded the threshold ~~was~~ were received, a transmission direction or directions, ~~to~~ in which to continue ~~the~~ transmission of the signal to said subscriber terminal.

2. (Currently Amended) A data transmission method used in a radio system comprising a subscriber terminal (200) and at least one base station (100) which transmits signals to the subscriber terminal by means of its antenna (140, 141), ~~characterized by, the method comprising:~~

determining the quality of ~~the~~ signals received by the subscriber terminal (200) by comparing the received signals with at least one signal quality threshold level, and

when only one signal exceeds the threshold, sending to the base station (100), which transmitted the signal that exceeded the threshold, a command to use, when transmitting a signal to said subscriber terminal, the antenna with which the signal that exceeded the threshold was transmitted, or the transmission direction ~~to~~ in which the signal that exceeded the threshold was transmitted.

3. (Currently Amended) ~~A method as claimed in claim 1, characterized in that~~ wherein when the quality of several signals is within the acceptable levels, information on the quality of the signals is sent to the base station (100), and the base station can, on the basis of the information, decide which antenna or direction it will use to continue transmitting ~~the signal~~ signals.

4. (Currently Amended) ~~A method as claimed in claim 1, characterized in that~~ A data transmission method used in a radio system comprising a subscriber terminal and at least one base station which transmits signals to the subscriber terminal by means of its antenna, the method comprising:

determining the quality of signals received by the subscriber terminal by comparing the received signals with at least one signal quality threshold level,

sending to the base station, which transmitted a signal that exceeded the threshold, information on the antennas which transmitted the signal that exceeded the threshold, or information on the transmission directions from which the signal that exceeded the threshold were received, and

selecting from the antennas, which transmitted the signal that exceeded the threshold, an antenna or antennas to continue transmission of the signal to said subscriber terminal, or selecting from the transmission directions, from which the signal that exceeded the threshold were received, a transmission direction or directions, in which to continue transmission of the signal to said subscriber terminal,

wherein the signals transmitted by the base stations are amplified by amplifiers (121), and ~~in the method,~~ the antenna which is connected to ~~the amplifier~~ one of the amplifiers with the lowest load is selected as the transmission antenna.

5. (Currently Amended) ~~A method as claimed in claim 1, characterized in that~~ A data transmission method used in a radio system comprising a subscriber terminal and at least one base station which transmits signals to the subscriber terminal by means of its antenna, the method comprising:

determining the quality of signals received by the subscriber terminal by comparing the received signals with at least one signal quality threshold level,

sending to the base station, which transmitted a signal that exceeded the threshold, information on the antennas which transmitted the signal that exceeded the threshold, or

information on the transmission directions from which the signal that exceeded the threshold were received, and

selecting from the antennas, which transmitted the signal that exceeded the threshold, an antenna or antennas to continue transmission of the signal to said subscriber terminal, or selecting from the transmission directions, from which the signal that exceeded the threshold were received, a transmission direction or directions, in which to continue transmission of the signal to said subscriber terminal,

wherein the signals transmitted by the base stations are amplified by amplifiers (121) before transmission, and ~~in the method~~, the selection decision is made on the basis of the load situation of the amplifiers.

A) 6. (Currently Amended) A method as claimed in claim 1, ~~characterized in that wherein~~ if the quality of ~~the~~ a signal received by the subscriber terminal (200) is below the a lowest acceptable quality level, information on the quality of ~~the above-mentioned that~~ signal is sent to the base station which, after receiving the information, interrupts the transmission of ~~the poor-quality that~~ signal.

7. (Currently Amended) A method as claimed in claim 1, ~~characterized in that wherein the signal is~~ signals are transmitted to the subscriber terminal (200) by means of beams, and ~~the~~ a final decision on the transmission antenna, transmission direction or beam to be used by the base station is made in the base station (100).

8. (Currently Amended) A method as claimed in claim 2, ~~characterized in that wherein the signal is~~ signals are transmitted to the subscriber terminal (200) by means of beams, and ~~the~~ a final decision on the transmission antenna, transmission direction or beam to be used by the base station is made in the subscriber terminal (200).

9. (Currently Amended) A method as claimed in claim 1, ~~characterized in that wherein~~ the transmission beam of the base station causing the least interference is selected and the selection decision is made in the base station (100).

10. (Currently Amended) A method as claimed in claim 2, ~~characterized in that~~ wherein the transmission beam of the base station causing the least interference is selected and the selection decision is made in the subscriber terminal (200).

11. (Currently Amended) A radio system comprising at least one subscriber terminal (200) and at least one base station (100) comprising an antenna (140, 141) by means of which the base station transmits signals to the subscriber terminal, ~~characterized in that~~ wherein the subscriber terminal comprises a measuring means (230) which determines the quality of the signals received by the subscriber terminal by comparing the received signals with at least one signal quality threshold level,

A | the subscriber terminal sends to the base station, which transmitted ~~the~~ a signal that exceeded the threshold, information on the antennas by which the signal that exceeded the threshold ~~was~~ were transmitted, or information on the transmission directions from which the signal that exceeded the threshold ~~was~~ were received,

the base station (100) comprises a means (102) which selects from the antennas (140, 141), which transmitted the signals signal that exceeded the threshold, an antenna or antennas with which to continue to transmit the signal to said subscriber terminal (200), or the means (102) selects from the transmission directions of the signals signal, which exceeded the threshold, a transmission direction or directions ~~to~~ in which the base station continues to transmit the signal.

12. (Currently Amended) A radio system comprising at least one subscriber terminal (200) and at least one base station (100) comprising an antenna (140, 141) by means of which the base station transmits signals to the subscriber terminal, ~~characterized in that~~ wherein

the subscriber terminal (200) comprises a measuring means (230) which determines the quality of the signals received by the subscriber terminal by comparing the received signals with at least one signal quality threshold level, and

when only one signal exceeds the threshold, the subscriber terminal (200) sends to the base station (100), which transmitted the signal that exceeded the threshold, a command to use, when transmitting a signal to said subscriber terminal, the antenna with which the signal that exceeded the threshold was transmitted, or the transmission direction ~~to~~ in which the signal that exceeded the threshold was transmitted.

13. (Currently Amended) A radio system as claimed in claim 11, ~~characterized in that~~ wherein when the quality of several signals is within the acceptable levels, the subscriber terminal (200) sends to the base station information, on the basis of which the base station can decide which antenna (140, 141) or direction the base station will use to continue transmitting the signal.

14. (Currently Amended) ~~A radio system as claimed in claim 11,~~  
~~characterized in that~~ A radio system comprising at least one subscriber terminal and at least one base station comprising an antenna by means of which the base station transmits signals to the subscriber terminal, wherein

the subscriber terminal comprises a measuring means which determines the quality of signals received by the subscriber terminal by comparing the received signals with at least one signal quality threshold level,

the subscriber terminal sends to the base station, which transmitted a signal that exceeded the threshold, information on the antennas by which the signal that exceeded the threshold were transmitted, or information on the transmission directions from which the signal that exceeded the threshold were received,

the base station comprises a means which selects from the antennas, which transmitted the signal that exceeded the threshold, an antenna or antennas to continue to transmit the signal to said subscriber terminal, or the means selects from the transmission directions of the signal, which exceeded the threshold, a transmission direction or directions in which the base station continues to transmit the signal, and

wherein the base station comprises amplifiers (121) which amplify the signals before their transmission, and the means (102) selects as the transmission antenna of the base station the antenna or antennas which are connected to the amplifier with the smallest load.

15. (Currently Amended) ~~A radio system as claimed in claim 11,~~  
~~characterized in that~~ A radio system comprising at least one subscriber terminal and at least one base station comprising an antenna by means of which the base station transmits signals to the subscriber terminal, wherein

the subscriber terminal comprises a measuring means which determines the quality of signals received by the subscriber terminal by comparing the received signals with at least one signal quality threshold level,

the subscriber terminal sends to the base station, which transmitted a signal that exceeded the threshold, information on the antennas by which the signal that exceeded the threshold were transmitted, or information on the transmission directions from which the signal that exceeded the threshold were received,

the base station comprises a means which selects from the antennas, which transmitted the signal that exceeded the threshold, an antenna or antennas to continue to transmit the signal to said subscriber terminal, or the means selects from the transmission directions of the signal, which exceeded the threshold, a transmission direction or directions in which the base station continues to transmit the signal, and

wherein the base station comprises amplifiers (121) which amplify the signals before their transmission, and the means (102) makes the selection decision on the basis of the load situation of the amplifiers (121).

16. (Currently Amended) A radio system as claimed in claim 11, ~~e-h-a-r-a-c-t-e-r-i-z-e-d-i-n-t-h-a-t~~ wherein if the quality of ~~the a~~ signal received by the subscriber terminal is below ~~the a~~ lowest acceptable quality level, the subscriber terminal (200) sends information on the quality of ~~the above-mentioned that~~ signal to the base station which, after receiving the information, stops transmitting ~~the that~~ signal with the antenna by which the signal that was below the threshold was transmitted.

17. (Currently Amended) A radio system as claimed in claim 11, ~~e-h-a-r-a-c-t-e-r-i-z-e-d-i-n-t-h-a-t~~ wherein the base station (100) transmits ~~the signal~~ signals to the subscriber terminal (200) by means of beams, and ~~the a~~ final decision on the transmission antenna, transmission direction or beam to be used in the base station is made in the base station (100).

18. (Currently Amended) A radio system as claimed in claim 12, ~~e-h-a-r-a-c-t-e-r-i-z-e-d-i-n-t-h-a-t~~ wherein the base station (100) transmits ~~the signal~~ signals to the subscriber terminal (200) by means of beams, and ~~the a~~ final decision on the transmission

antenna, transmission direction or beam to be used in the base station (100) is made in the subscriber terminal (200).

A 1 19. (Currently Amended) A radio system as claimed in claim 11,  
~~characterized in that~~ wherein the base station comprises a means (102) which selects  
as the transmission beam of the base station the transmission beam causing the least  
interference.

20. (Currently Amended) A radio system as claimed in claim 12,  
~~characterized in that~~ wherein the subscriber terminal comprises a means (202) which  
selects as the transmission beam of the base station the transmission beam causing the least  
interference.

---